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ABSTRACT

This study analyzed the pronunciation of English interdental fricatives by two native speakers of Turkish, focusing on whether there was systematic variation of forms according to the kind of discourse and the surrounding phonemes. Subjects were two adult Turkish learners of English as a Second Language, both of whom had been in the United States for 6 years. One was an advanced learner, the other an intermediate-level learner. Data were gathered in recordings of spontaneous speech, passage reading, and word list reading. Analysis of the transcriptions showed both speakers to be stable and consistent in the pronunciation, whether correct or incorrect, in all three situations. Neither had great difficulty pronouncing the voiced interdental. In pronouncing minimal pairs in the word list, both showed considerable symmetry in correct and incorrect pronunciations. Both had difficulty pronouncing the voiceless interdental fricative in certain consonant clusters and after back vowels in the same syllable. The intermediate-level English learner transferred pronunciation from some Turkish words. Implications for language teaching are discussed briefly. (Contains 10 references.) (MSE)

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INTRODUCTION

This study analyzed and compared the interlanguages of two Turkish ESL learners in terms of how they pronounced the interdental fricatives /θ/ and /ð/ in English. One of the main concerns of the study was to see whether the two learners vary their use of forms systematically according to kind of discourse, depending on the degree of monitoring. Secondly, the data were analyzed to see whether the use of the forms vary according to phonetic factors (i.e.,the surrounding sounds).

There have been many studies on the substitution of different sounds for the interdental fricatives of English by ESL learners with different native languages. In one of the few studies on how Turkish learners of English deal with the English fricatives, Brown (1994) contrasts the sound systems of English and Turkish and states that "English has interdental fricatives /θ/ and /ð/; Turkish does not" (p. 197), and since these English sounds are new to the Turkish speaker, they will have difficulty with these sounds in minimal pairs such as three-tree, thin-tin, booth-boot, and through-true. On the same issue, Ritchie (1983) claims that Turkish speakers fluctuate between /t/ and /s/ for /θ/. Thompson (1987), on the other hand, argues that Turks often replace /θ/ and /ð/ by overaspirated /t/ and /d/.

Dickerson (1976), analyzing the speech of Japanese ESL learners found that the learners' variable pronunciation of the English sounds can be constrained by phonetic (i.e., the surrounding sounds), stylistic (e.g., degree of formality in the speech situation), and other factors (e.g., length of study of English). Schmidt (1977), investigating the English speech of Arabic speakers, also found that they vary their pronunciation of the interdental according to speech style.

Tarone (1982; 1983), following Labov, claimed that the vernacular style is primary, as it is the most stable and consistent of all styles. Because the vernacular style represents unmonitored capability, it contains fewer instances of either target language or L1 forms than other styles. It will, therefore, have greater internal consistency, because it is not subject to the variable influence of other knowledge sources. Whereas the interlanguage forms used in a careful style are likely to be highly variable, depending on the degree of monitoring and also which forms are focused on for close attention, the interlanguage forms used in the vernacular style are relatively invariable.

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Participants

The participants of the study were two adult Turkish learners of English. Speaker A was a graduate student at Columbia University, and speaker B was not a student, but she worked. Both speakers had been in the US for 6 years. Speaker A had been in school since he had come there, and speaker B had attended several language programs (approximately for two years in total) at various times during her stay in the US. Both participants had studied EFL in high school and college in Turkey, but not intensively. We can assume that speaker A is an advanced learner, whereas speaker B is at an intermediate level of proficiency.

Data Collection

The data were gathered through three different means. Recordings were made in three situations:

1. spontaneous speech (unmonitored, vernacular style),
2. reading a passage (monitored),
3. reading a list of words (more monitored, careful style).

First, the participants' English conversation with another Turkish couple was audiotaped at the researcher's apartment with the consent of all the participants. In order to make sure that they were emotionally engaged, the researcher began to record the conversation after the participants had talked on different topics for an hour. A couple of days later, the researcher asked the learners to read aloud a reading passage which was also audiotaped. And finally, the researcher audiotaped the learners as they read a list of 75 words, 65 of which contained an interdental fricative, and the remaining being minimal pairs.

After the recordings were made, the conversation was first orthographically transcribed, and then all the words with interdental fricatives /θ/ and /ð/ (uttered by the two learners) were identified, and these words were phonologically transcribed. Then, the same procedure of transcribing the "th words" was followed for the reading passage, and the list of words. The phonological transcription of the "th words" was repeated after a lapse of time to reach an intra-observer-agreement. Then, the same words were transcribed by a native speaker of English for inter-observer-reliability.

FINDINGS AND DISCUSSION

Let us look at the quantitative analyses to see what conclusions can be drawn from the data. What generalizations can be made about these two learners, assuming the data represents characteristics of their interaction patterns?

Table 1
CORRECT AND INCORRECT USAGES OF /ð/ AND /θ/ IN THE DATA

	conversation				**reading passage**				**list of words**			
	correct		*incorrect*		*correct*		*incorrect*		*correct*		*incorrect*	
	/ð/	/θ/	/ð/	/θ/	/ð/	/θ/	/ð/	/θ/	/ð/	/θ/	/ð/	/θ/
Speaker A	31	4	0	4	30	8	1	4	18	28	1	18
Speaker B	19	2	0	7	30	0	1	12	16	18	3	28

Let us summarize the findings displayed in Table 1 to see whether these second language speakers' pronunciation of the interdentals vary systematically, that is, whether the use of the correct and the incorrect form are predictable from the style of speech.

Speaker A pronounced the /ð/ sound correctly in every style. The correct versus incorrect usages are **31 vs. 0, 30 vs. 1, and 18 vs. 1**, respectively for each set of data. In other words, he did not change his pronunciation of the voiced interdental systematically.

The ratios of correct versus incorrect usages of the same sound by speaker B are very similar to the ones that we have found for speaker A. She also pronounced it correctly in every style, **19 vs. 0, 30 vs. 1, and 16 vs. 3**. Thus, Speaker B did not change her pronunciation from style to style either. Both speakers' pronunciations seem to be stable in all styles of speech.

Now let us look at the ratios of correct pronunciation of the voiceless interdental /θ/:

	Speaker A	**Speaker B**
conversation	50% correct (4 out of 8)	22% correct (2 out of 9)
reading passage	66% correct (8 out of 12)	0 % correct (0 out of 12)
list of words	61% correct (28 out of 46)	39% correct (18 out of 46)

It is very difficult to reach a conclusion about systematic variability of the pronunciation of /θ/ over different styles. According to the findings, Speaker A used the sound /θ/ most correctly in the reading passage, whereas Speaker B used the most correct pronunciation in the list of words.

Let us see how some of the words which exist in all three sets of the data (with different degrees of monitoring) were pronounced by the learners:

Table 2
CORRECT AND INCORRECT USAGES OF /ð/ AND /θ/
IN SOME PARTICULAR WORDS IN THE DATA

		Speaker A			**Speaker B**		
		Conversation	Reading passage	List of words	Conversation	Reading passage	List of words
/ð/	the	correct 100%	correct 100%	correct	correct 100%	correct 100%	correct
	that	correct 100%	correct 100%	correct	correct 100%	correct 100%	correct
	there	correct 100%	correct 100%	correct	correct 100%	correct 100%	correct
/θ/	through	**not used**	**incorrect 100%**	**incorrect**	**not used**	**incorrect 100%**	**incorrect**
	three	**not used**	**incorrect 100%**	**incorrect**	**not used**	**incorrect 100%**	**incorrect**

Analyzing the findings in Table 2, it was observed that both speaker A and speaker B are stable and consistent in their pronunciations of particular words in all styles. They either pronounce the target sounds correctly or incorrectly, regardless of the style of speech. In pronouncing the words "through" and "three", both speakers used the sound /θ/ incorrectly in the reading passage and in the word list, and they did not use these words in the conversation at all (see Table 2).

Table 1 and Table 2 indicate that neither speaker A nor speaker B has great difficulty in pronouncing the voiced interdental. In all sets of the data, both speakers were able to pronounce all the words with /ð/ correctly, except the following ones:

	Speaker A	**Speaker B**
reading passage:	bathe	bathe
word list:	breathe	breathe
		rhythm
		southern

In pronouncing the words "breathe" (word list, column 2, line 9) and "bathe" (reading passage, line 2), both speaker A and B used the voiceless interdental instead of its voiced counterpart. Speaker B also pronounced the word "southern" with the voiceless interdental. Maybe speakers first learned how the noun forms of these words ("bath", "breath", "south") are pronounced, and they might have overgeneralized this knowledge to other forms of these words (bathe, breathe, southern) which should be pronounced with the voiced interdental.

Another pattern observed was in the pronunciation of the minimal pairs in the word list. Both speakers showed a remarkable symmetry in their correct and incorrect pronunciations. Whereas they both used the target sound correctly to differentiate between the following pairs:

bath/bed thin/tin,

neither speaker A nor speaker B could differentiate between the following minimal pairs:

1	2	3	4
boot/booth	through/true	eight/eighth	breath/breathe
toot/tooth	three/tree		
boat/both			

In the case of incorrect pronunciation of the word "eight" (with a /θ/) in the minimal pair eight/eighth, speakers might have been hypercorrecting. Since they know that they were required to pronounce /θ/ in most of the words in the given list, they might have overused the form.

Analyzing the data further, another symmetry was found in the incorrect pronunciations of the speakers. Both speakers pronounced the voiceless interdental in the following words incorrectly:

Speaker A & B	Speaker A & B
thread	both
thrust	truth
worth	youth
north	
earth	
hearth	

Linguistic environments:

Looking at the examples above, and the incorrectly pronounced minimal pairs, I found two linguistic environments relevant for the /θ/ sound. Both speakers had difficulty in pronouncing the voiceless interdental fricative /θ/:

a) in consonant clusters where an /r/ sound either precedes or follows the interdental in the same syllable (e.g., thrust, through, worth, hearth, three), (*see column 2 above in the incorrect pronunciation of the minimal pairs*).

b) after back vowels in the same syllable (e.g., booth, youth, truth, both), (*see column 1 above in the incorrect pronunciation of the minimal pairs*).

The reason why both speakers had difficulty in pronouncing the voiceless interdental fricative /θ/ in these consonant clusters might be because as Thompson (1987) remarks, "the Turkish consonant system does not allow initial clusters in native words, and clusters of more than three consonants in any position are unusual" (p. 160).

The difficulty these speakers had in pronouncing the voiceless interdental fricative /θ/ after back vowels could be explained in terms of articulatory reasons. Since back vowels are articulated in the back of the mouth and the interdentals in the front, it might be hard for them to move their tongues from back to front in order to be able to articulate this particular combination of sounds.

Another pattern observed in the data is that speaker B transferred the pronunciation of some words from her native language (e.g., rhythm (=ritim in Turkish), theory (=teori in Turkish), method (=metod in Turkish)), whereas speaker A did not. In these examples, speaker B pronounced the words "rhythm", "theory", and "method" in exactly the same way as they are pronounced in Turkish. As a matter of fact, these borrowed words in Turkish are pronounced as they are spelled (i.e., ritim, teori, and metod). On the other hand, speaker A did not pronounce these words as they are pronounced in Turkish. Thus, just because these words exist in Turkish in similar forms does not necessarily mean that all ESL learners will transfer these forms from Turkish to English.

One possible factor for explaining why one speaker has these forms in her language but not the other one could be the level of the learners. Brown (1994) argues that the beginning stages of learning a second language are characterized by a good deal of interlingual transfer (interference) from the native language since "in these early stages, before the system of second language is familiar, the native language is the only linguistic system in previous experience upon which the learner can draw" (p. 213). Brown further claims, however, "once the learners have begun to acquire parts of the new system, more and more intralingual transfer is manifested" (p.214). Thus, maybe speaker B, being an intermediate level speaker, is more likely to substitute L1 forms for L2 ones.

Although these learners spent years studying English, and even though they have been in the US for 6 years, they are still unable to differentiate between some minimal pairs such as three/tree in their pronunciation. The possible reason for this might be fossilization. The speech of many second language learners is characterized by getting stuck with a fixed system of linguistic forms that do not match the target language model. Fossilization occurs when the learner stops to elaborate the interlanguage in some respect, no matter how long there is exposure, new data, or new teaching. Allwright and Bailey (1991), describing this phenomenon as a non-native form (an error) which becomes 'cast in stone' over time, argue that a fossilized form is impervious to correction or input.

Brown (1994) has pointed out that "the internalization of incorrect forms takes place by means of the same learning processes as the internalization of correct forms, but we refer to the latter ... as learning" (p. 217), while the former is called "fossilization."

Some researchers (Brown, 1994; Vigil & Oller, 1976; Higgs and Clifford, 1982) believe fossilization occurs as a result of the type of feedback second language learners receive. Vigil and Oller argued that second language learners get at least two kinds of feedback from their interlocutors. The first is cognitive feedback- information about the language they use. The second is affective feedback- emotional reactions to their utterance.

Vigil and Oller (1976) claimed that "fossilized items are ungrammatical or incorrect items in the speech of a learner which gain first positive affective feedback then positive cognitive feedback, reinforcing an incorrect form of language" (p. 187). They argue that to prevent fossilization of erroneous forms, clear cognitive information about the problems in the learners output should be provided.

It has been suggested that fossilization may be due to a lack of willingness to take risks (Beebe, 1983). Beebe pointed out that fossilization might arise "from a risk-taking situation where learner's perceive high-risk low gain. In other words, learners experience a crisis in motivation because they evaluate the situation as a bad gamble" (Beebe, 1983, p. 45). Maybe learners are not sure how to use the target forms correctly, and they feel it is safer to use the forms that they know better although those forms may be incorrect in that context.

One of the important sources of these errors might be transfer of training. As a language learner and also as a teacher, I have observed that neither textbooks nor teachers in Turkey, deal with

speakers' pronunciation effectively. It is usually ignored in EFL classes partly because most of the EFL teachers do not have the proficiency to deal with this subject, and partly because all Turkish EFL speakers can understand each other, no matter whether they substitute / t/ for /θ/. Almost all English teachers are Turkish, and since they have hardly been exposed to native English pronunciation, they neither pronounce native-like nor do they expect their speakers to be native-like. Most teachers let speakers substitute other sounds (e.g., /t/ and /d/) for the English interdentals, and nobody notices the difference. However, these learners start to face problems as soon as they need to interact with native speakers of English.

Although speakers need some practice to be able articulate the interdentals correctly, this kind of practice is rarely provided. Even, when these sounds are practiced, teachers do not guide speakers adequately, partly because they lack the perceptive capacity.

Implications for language teaching:

If speakers receive the same feedback when they articulate the correct sounds and when they substitute some other sounds for the target sounds (although there might be phonemic differences, e.g., thin-tin, three-tree), they might stop trying to produce the target language sounds since no matter which sound they produce they can communicate. Thus, it is very important for ESL teachers to be sensitive to such errors. They should not let speakers communicate using the incorrect sounds. That might lead to a strategy of second language communication. When speakers are able to get their meaning across without focusing on the correct articulation, they will not try to pronounce the correct sounds. If teachers do not focus on meaning differences that might be created by substituting some other sounds for the target language sounds, these errors might become fossilized.

In order to see how these learners' incorrect pronunciation of certain words function in real communication, we need to analyze whether they can communicate with native speakers and whether they face any problems in conveying their intended meaning.

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Appendix A

Turkish and English consonants (English consonants are underlined)

		BILABIAL	LABIO-DENTAL	INTER-DENTAL	DENTAL	ALVEOLAR	PALATAL	VELAR	GLOTTAL
Stops	vl	p p			t	t	K	k k	
	vd	b b			d	d	G	g g	
Fricatives	vl		f f	th		s s	sh sh		h h
	vd		v v	dh		z z	zh zh		
Affricates	vl					ch ch			
	vd					j j			
Nasals		m m			n	n		ng	
Laterals						l l	L		
Glides						r r	y y	w	

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